ABSTRACT OF THE DISCLOSURE

An RF radio receiver utilizing wideband RF technology, a wideband digital IF (channelizer) tuner, a common digitizing rate, and multi-user detection (MUD) processes a superposed RF signal to allow simultaneous reception of two or more RF signals sharing overlapping frequency spectrum (RF bandwidth). The RF radio receiver is particularly effective for two or more RF signals of differing RF channel bandwidth and can also receive signals which accord to different air interface standards. The use of a common digitizing rate provides for oversampling of at least one of the RF signals for more accurate decoding and allows for a synchronized signal (i.e. at a common rate) to be used in decoding, and in particular multi-user decoding of other RF signals.